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Department of
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**Forest
Service**
Southwestern
Region

Forest Pest Management Report

R-3 84-8

A USER'S GUIDE TO "PEST": A COMPUTER PROGRAM FOR SUMMARIZING FOREST INSECT AND DISEASE DAMAGE SURVEYS

February 1984

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ROCKY MT. FOREST & RANGE
EXPERIMENT STATION

3420

R-3 84-8

TECHNICAL REPORT

A USER'S GUIDE TO "PEST": A COMPUTER PROGRAM FOR SUMMARIZING FOREST INSECT AND DISEASE DAMAGE SURVEYS

Revised by

J. M. Chavez

February 1984

USDA Forest Service, Southwestern Region
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INTRODUCTION

The computer program PEST is a Region 3 program for summarizing forest insect and disease damage surveys. Originally written by Robert E. Green for Forest Insect and Disease Management, Region 4, PEST simultaneously compiles information on up to 11 distinct tree damage classes, prints stand summary tables of trees per acre and square feet per acre by d.b.h. classes, and computes statistics for each damage class total. Number of trees, diameter, and tree damage data from fixed plots, variable plots, or strip cruises are tallied directly onto keypunch forms. PEST is a simple, yet flexible computer program for summarizing forest insect and/or disease damage to trees and stands.

INPUT

Input Medium

There are 12 run statements to control program flow and enter data. Depending on the options selected, some run statements may be repeated or deleted from the run stream. Explanation of the run statements and fields for each follow:

Card Type 01 - Stand Identification. Five fields on this card identify the stand on the printout. Refer to Form 1 in the appendix for submitting data for keypunching.

Sampling Method - Control to specify which sampling method is used; can be either "FIXED," "VARIABLE," or "STRIP."

Job Description - A 24-character field printed on each page to identify the stand surveyed.

Insect Name - A 20-charcter field identifying the insect or disease organism.

Name of Host - A 20-character field identifying the host tree species.

Sample Size - Total number of plots or strips in the survey; may not exceed 999 and should be right adjusted.

Card Type 02 - Nonhost Column Headings and Options. There are four pairs of fields on this run statement to associate a species code with a species name to be printed at the top of the nonhost stand table columns. Two additional fields are used if individual plot summaries or special d.b.h. classes are needed. Refer to Form 1 in appendix for submitting data for keypunching.

Species Code - A 3-character code composed of letters, numbers, or blanks, and identical to the code used on the card type 07 to identify a class of nonhost trees.

Species Name - An 8-character field printed above a nonhost species column and associated with a unique species code.

Plot Summaries - Control to specify printing of individual unweighted plot summaries. If a "1" is entered in the field, program will print individual plot summaries; a blank field will suppress this option.

Standard d.b.h. Classes - Control to specify that nonstandard diameter classes are used. If field is blank, program will default to standard 1-inch diameter classes beginning with the 5.0- to 5.9-inch class. If a "1" is entered in the field, program will read a type 03 card following the type 12 card in the deck.

Card Type 12 - Host Column Headings. There are six pairs of fields on this run statement to associate a species code with a species name to be printed at the top of the host stand table columns. In addition, there is a field for identifying a seventh column on the host tables which sums any combination of the six species classes. Refer to Form 1 in appendix for submitting data for keypunching.

Species Code - A 3-character code composed of letters, numbers, or blanks, and identical to the code used on the field type 06 to identify a damage class of host trees.

Species Name - An 8-character field printed above a host damage class column and associated with a unique species code.

Card Type 03 - Diameter Classes. There must be at least one type 03 card in a deck if the "1" option is selected in the standard d.b.h. field of the type 02 card. This option allows the user to specify any upper and lower size limit for up to 99 diameter classes and/or any starting diameter. The total number of diameter classes is designated only on the first type 03 card, and diameter should be right adjusted. Refer to Form 2 in appendix for submitting data for keypunching.

Card Type 04 - Sampling Area and Description. These fields are used to describe sampling intensity, stand acres, and location. Refer to Form 1 in appendix for submitting data for keypunching.

Basal Area Factor - BAF of a VARIABLE survey; left blank for both FIXED plot and STRIP cruises.

Strip Width - Width in chains for strip cruises; strip length must be recorded on card type 05. Leave this field blank for both fixed and variable plot surveys.

Areas Sampled - Area of the entire stand; not a sum of individual plot areas. This figure is used to calculate an upper and lower limit on the estimates for trees in the stand.

Description - A 62-character field to describe the stand or pest.

Code Type 05 - Plot Area and Description. A run statement of this type is required for each plot or strip when the sample method is either FIXED or STRIP. Refer to Form 3 in appendix for submitting data for keypunching.

Strip or Plot Number - A unique number used to assign a plot area to each plot or strip in the survey. Although plot numbers need not be sequential, they must agree with the plot numbers of the field types 06 and 07.

Strip Length - Length in chains of the sample method is STRIP.

Plot Areas - Area in acres if the sample method is FIXED.

Strip or Plot Description - A 64-character field not printed in output, but may be useful to identify specific plot cards.

Card Type 06 - Tally of Host Trees. Refer to Form 4 in appendix for submitting data for keypunching. This form is designed for recording data in the field.

Plot Number - A unique identification number for each plot.

Species - A 3-character code which agrees with the species code of the 12 card and identifies a host tree damage class. Codes other than those on the 12 card will not be recognized.

DBH - Diameter in inches of tally tree at 4½ feet, recorded as either a whole number or a decimal. The program will calculate trees per acre and basal area based on the recorded diameter; therefore, trees can be tallied either as measured or by the midpoint of the diameter class.

Number - Total tally of trees of that class and diameter.

Card Type (-6) - End of Plot. Although more than one type 06 card may be present to record plot data, each series of 06 cards for a particular plot must be followed by a (-6) card. If there are no tally trees, both the 06 card and (-6) may be dropped, but for fixed and strip surveys, the 05 card must be retained.

Card Type 07 and (-7) - Tally of Nonhost Trees. These cards are similar to the 06 (-6) cards, except that a species code different from any listed on the 02 card will be tallied in the OTHER column of the nonhost trees.

Card Type 08 - Breaker Card. One card type 08 is placed directly after the last (-6) card and one after the last (-7). Each run stream must have two 08 cards even if there are no 07 cards.

Card Type 10 - End of Run. The last card in a run is a 10 card.

Card Deck Setup Example

The following statements are needed if using deck of keypunched cards:

1. @RUN,L/N RO3JMC,0332456789ER,REG3,5,500
2. @ASG,A FPM3*FIDM. (Program file)
3. @XQT FPM3*FIDM.PEST-XQT (Executable)
4. 01
5. 02
6. 12
7. 03 (Optional)
8. 04
9. 05 (Optional for FIXED and STRIP survey)
10. 06 (HOST DATA)
11. -6
12. -08 (BREAKER CARD)
13. 07 (NONHOST DATA)
14. -7
15. 08 (BREAKER CARD)
16. 10 (END of FILE CARD)
17. @FIN

NOTE: If survey has host data only, two 08 cards are inserted after last data plot, followed by a 10 card and @FIN card.

Example:

```
DATA
  06
  -6
  08
  08
  10
  @FIN
```

Sort Routine

Run stream sorting of host and nonhost plots is essential for making this program run. This can be handled two ways.

1. If the system you are using handles cards, you can sort them by hand and assemble your own card deck normally.

2. If the system you are using does not handle cards and does not have a card reader, the process is as follows:

   After the data file has been edited and transmitted to FCCC on a disk file, this sort routine is accessed by demand terminal. The run stream is as follows:

   ```
   SORT INSTRUCTIONS DEMAND TERMINAL EXAMPLE
   @RUN RO3JMC, 1103674320LO,PEST cr[1]
   ```

[1] cr = carriage return

```
@US*FS·SORT cr  Reply
 SORTMERGE OR MESSAGE ?>SORT cr  Reply
*INPUT SORT FILE OR ELEMENT=>DATA FILE - cr  Reply
*OUTPUT SORT FILE OR ELEMENT=>DATA FILE - cr  Reply
 OUTPUT NAME IS A FILE cr Reply
*MAX CHAR, NUMBER OR KEYS, COLUMN NUMBER, SIZE...
>80,3,2,1,3,5,-1,1←USE THIS SORT ROUTINE
*   80=MAXC   3=NKEYS   2=COLUMN   1=SIZE
                        4=COLUMN   4=SIZE
                       -1=COLUMN   1=SIZE

 *END SORT---RECORDS = 1005 - Total records sorted
***US*FS SORT    ***Total Times: CPU: 1.25 seconds
                                 I/O:  2.09 seconds
                               CCER:  5.30 seconds
                     Resource Time:  14.19 seconds
                               Cost:  $1.06
*CED,R DATA FILE.  USE "R" option only.
 EDIT
0:>LNP!
   DATA file will print out in its entirety.
 EOF: 1005 - TOTAL records
 0:> EDIT or EXIT FILE and insert 08,10 cards, and
   JCL to data file

 Now data file is ready to run through demand terminal

 DEMAND TERMINAL SAMPLE RUNSTREAM
 @RUN,L/B Δ Run charge ,REG3, 5,500
  L/B option will put you in the Run BATCH MODE
 @SYM Δ PRINT$.,,FCRO1O
 @MSG,N GIVE TO MIKE FPM
 @ASG,A FPM3*FIDM.
 @ASG,A DATA FILE
 @XQT FPM3*FIDM'PEST-XQT
 @ADD DATA FILE.
 @FREE DATA FILE.
 @FIN
```

The flexibility of PEST for handling different types of tree damage cruises and summarizing the data obtained can be demonstrated by four examples. Assembled run streams are shown in examples 1, 2, 3, and 4. Example 1 shows a deck setup needed to run a variable plot cruise with 1-inch diameter classes. Example 2 shows a deck setup for a strip cruise with 1-inch diameter classes. Example 3 shows a deck setup for a variable plot cruise with standard timber management size classes, and example 4 shows a FIXED cruise with diameter classes up to 5 inches.

Several surveys can be processed successively. This can be done by inserting between card types 08 and 10 the card sequence for each survey from card type 01 to the second card type 08.

OUTPUT

Thirteen tables are generated for each survey: Seven for host tree species, five for nonhost tree species, and one for total stand. For both host and nonhost species, stand tables show average number of trees per acre and average basal areas per acre by diameter and tree damage class. An average diameter for each damage class from unweighted plot observations is also included with the number of trees per acre tables. Each stand table has an accompanying statistical analysis table, and a statistical table is presented for the total stand. Output for the assembled run streams shown in examples 1, 2, 3, and 4 is given in the appendix.

AVAILABILITY

PEST is on file at the USDA Fort Collins Computer Center (FCCC). Copies of the forms shown in the appendix for submitting data for key-punching can be obtained from the Region 3, Forest Pest Management office, in Albuquerque, New Mexico. Contact Region 3, Computer Systems, or Mike Chavez, Region 3, Forest Pest Management, for further information concerning the PEST program and program files.

APPENDIX

1. Keypunch instruction
2. Form 1 - Submittal form for card types 01, 02, 12, and 04
3. Form 2 - 03 form for special DBH classes
4. Form 3 - 05 form for fixed surveys
5. Form 4 - Data form
6. Sample run stream
7. Sample run "VARIABLE" 20 BAF
8. Sample run "FIXED" 10 BAF
9. Sample run "STRIP" .500 chains wide

USDA - FOREST SERVICE

CARD PUNCHING & VERIFYING INSTRUCTIONS

INSTRUCTIONS: Use following symbols in functions column

Symbol	Function
D	DUPLICATE
P	PUNCH
S	SKIP
X-S	X-SKIP
V	VERIFY
L	LEFT JUSTIFY

JOB NAME: Tally of Plots Trees

JOB NUMBER: 5921

SOURCE DOCUMENT: Tally of Plot Trees Sheets

PAGE 1 OF 1

CARD FORM USED: 5081

PREPARED BY: V. Rowe

DATE: 9/1/83

Field No.	CARD FIELD	COLUMNS FROM	COLUMNS TO	NO. COLUMNS	FUNCTIONS	REMARKS
1	Card Indent	1	2	2	PV	Punch "06" or "-6" as shown
2	Plot Number	3	7	5	PV	Numeric R/J Pre Blanks
* 3	Field 1					
	A. SP	8	10	3	PV	Alpha punch as shown
	B. DBH	11	14	4	PV	Punch decimals when shown Numeric punch as shown
	C. No.	15	17	3	PV	" " " "
4	Field 2					
	A. SP	18	20	3	PV	*
	B. DBH	21	24	4	PV	Same as Field 1
	C. No.	25	27	3	PV	
5	Field 3					
	A. SP	28	30	3	PV	
	B. DBH	31	34	4	PV	* Same as Field 1
	C. No.	35	37	3	PV	
6	Field 4					
	A. SP	38	40	3	PV	
	B. DBH	41	44	4	PV	* Same as Field 1
	C. No.	45	47	3	PV	
7	Field 5					
	A. SP	48	50	3	PV	
	B. DBH	51	54	4	PV	* Same as Field 1
	C. No.	55	57	3	PV	
8	Skip	58	80	23	S	Blank
	DO NOT ZERO FILL					

GPO 905.075

6600-4 (11/66)

FORM 1

SUBMITTAL FORM FOR CARD TYPES 01, 02, 12, AND 04

FOREST INSECT AND DISEASE SURVEY SUMMARY - PEST

CARD TYPE (0 1) (1 2)	SAMPLING METHOD (4 — 11)	JOB DESCRIPTION (12 — 35)

INSECT NAME (36 — 55)	NAME OF HOST (56 — 75)

SAMPLE SIZE (76 — 80)	

CARD TYPE (0 2) (1 2)	SPECIES CODE	SPECIES NAME	PLOT SUMMARIES (ENTER "1" IF DESIRED)
	(1 — 2) (3 — 5)	(6 — 13)	(47)
	(14 — 16)	(17 — 24)	STANDARD DBH CLASSES LEAVE BLANK (ENTER "1" IF SUPPLIED ON CARD TYPE 03)
	(25 — 27)	(28 — 35)	(48)
	(36 — 38)	(39 — 46)	

CARD TYPE (1 2) (1 2)	SPECIES CODE	SPECIES NAME	SUMMARY (ENTER "1" TO INCLUDE)
	(1 — 2) (3 — 5)	(6 — 13)	(14)
	(15 — 17)	(18 — 25)	(26)
	(27 — 29)	(30 — 37)	(38)
	(39 — 41)	(42 — 49)	(50)
	(51 — 53)	(54 — 61)	(62)
	(63 — 65)	(66 — 73)	(74)

HEADING FOR SUMMARY COLUMN (75 — 80)	

CARD TYPE (0 4) (1 2)	BASAL AREA FACTOR (3 — 6)	STRIP WIDTH (CHAINS) (7 — 12)	AREA SAMPLED (13 — 18)	DESCRIPTION OF POPULATION THAT THIS SAMPLE REPRESENTS (MAXIMUM OF 62 CHARACTERS) (19 — 33)

(34 — 68)

(69 — 80)

SUBMITTING UNIT	TELEPHONE NUMBER	PERSON(S) RESPONSIBLE

FORM 2

USDA—FOREST SERVICE

DIVISION TIMBER MANAGEMENT

CHARGE NO.	JOB ID	JOB DESCRIPTION	BY	DATE	PAGE
					____ of ____

DIAMETER CLASSES FOR STAND TABLES

CARD IDENT	Number of Classes	CLASS 1				CLASS 3				CLASS 5				CLASS 6				CLASS 7			
		Lower		Upper		Lower		Upper		Lower		Upper		Lower		Upper		Lower		Upper	
1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18	19 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44
10	3																				
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25	3																				
		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18	19 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44

45 46	47 48	49 50	51 52	53 54	55 56	57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72	73 74	75 76	77 78	79 80				
45 46	47 48	49 50	51 52	53 54	55 56	57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72	73 74	75 76	77 78	79 80				

FORM 2

FORM 3

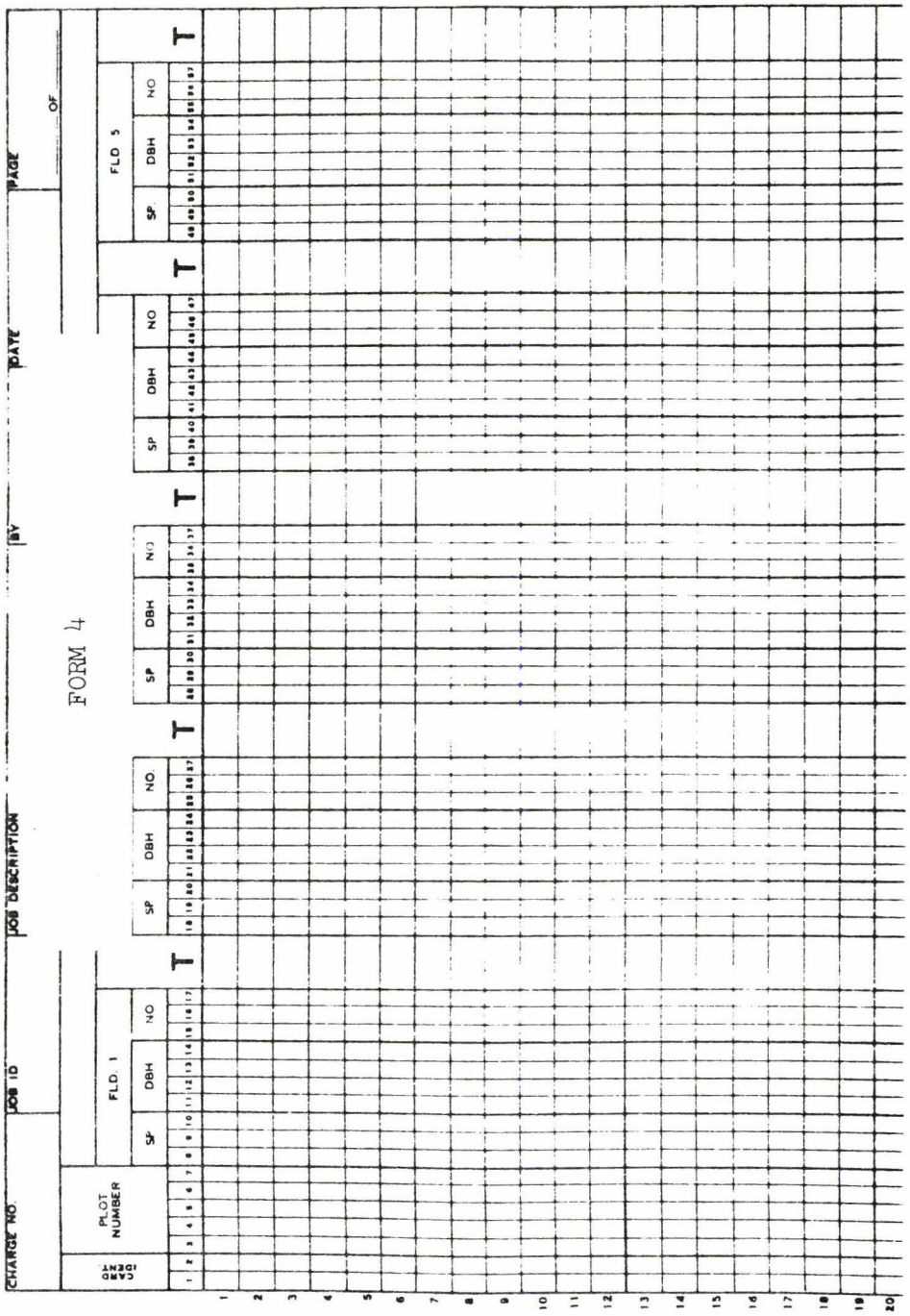
USDA—FOREST SERVICE

DIVISION TIMBER MANAGEMENT

CHARGE NO.	JOB ID	JOB DESCRIPTION	BY	DATE	PAGE
					_____ of _____

CARD IDENT.	STRIP OR PLOT NO.	Strip Width (Chains) or Plot Area (Acres)		STRIP OR PLOT DESCRIPTION (64 letters or numbers)
1 2	3 4 5 6 7	8 9 10 11 12 13	14 15 16	17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 0 5				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25 0 5				
1 2 3 4 5 6 7 8 9 10 11 12 13			14 15 16	17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

FORM 3



FORM 4

INSECT _____ HOST _____ LOCATION _____

_____

DATE _____ CREW _____ AREA SAMPLED _____ (acres)

CRUISE METHOD _____ BAF _____ or PLOT AREA _____

or STRIP WIDTH _____ and LENGTH _____

INSTRUCTIONS

Card Ident

Host trees - Use 06 in Columns 1 and 2, row 1.

Terminate host type by placing a -6 in Columns 1 and 2 on a blank row.

Non Host trees - Use 07 in Columns 1 and 2 after -6, then terminate by using -7 on a blank row.

Plot Number

One plot per form. Place plot number in row 1, Columns 3 - 7.

Right adjust numbers. Example.

3	4	5	6	7
			2	1

Record plot number in every row to last minus number in card identification field.

Field Data

Host trees

Sp. (code) - LIV = live trees, NEW = new attacks, OLD = 1 year old attack, SNG = attacks 2 or more years old.

DBH - Diameter classes can be recorded with decimals or as whole numbers. Right adjust whole numbers. Examples

11	12	13	14
1	0	.	8

11	12	13	14
		1	0

No. - Record total number of trees in diameter class. Example

15	16	17	T
		6	L

Number should be right adjusted.

Non-host trees

Sp. (code) - DF = Douglas-fir, AF = Subalpine fir, etc.

DBH - Similar to host trees.

No. - Similar to host trees.

SAMPLE RUN STREAM

```
12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901.

@RUN,L/N R83JMC,11 3[illegible] ,83,,,50

@SYM PRINTS,,,FOR 10

@MSG,N GIVE TO MIKE F&W

@DELETE,C R3PEST*STRIP.
FURPUR 2PR2 J1 S74T11 02/05/ 3 11:2[illegible]:13

R3PEST*STRIP          IS NOT CATALOGUED OR ASSIGNED
FAC STATUS: 4,361 [illegible] 13

@ERS
END ERS.

@ASG,UP R3PEST*STRIP.

@SAVE R3PEST*STRIP(1),,831231
SAVE  3R1 SL74R1 12/25/83 13:21:13          ENTER DESCRIPTION:
SV88  SAVE REGISTERED SUCCESSFULLY.
      PURGE: 831231  DESC: 1982 STRIP TEST FT  APACHE
```

```
@DATA.IL R3PEST*STRIP.
DATA 9R1 SL74T9 02/25/83 13:1 :27 (->1)
    1.      1 STRIP   FT. A-ACHT SPRUCE BEETLESPRUCE BEETLE        ENG. SPRUCE              13
    2.      2                                                          1
    3.     12SP1FILL-IN 1SP2NEW ATTK1SP3OLD ATTK1SP4PITCHOUT1SP5SNAG    1
    4.      4          .500    21STRIP TEST RUN
    5.      5  1 1  .50
    6.      5  1 2  .50
    7.      5  1 3  .50
    8.      5  1 4  .50
    9.      5  1 5  .50
   10.      5  1 6  .50
   11.      5  1 7  .50
   12.      5  1 8  .50
   13.      5  1 9  .50
   14.      5  1 0  .50
   15.      6  1 1SP1  14  2SP2  12  3SP1  1   3SP3  21  4SP5  16  1
   16.      6  1 1SP2  12
   17.     -6  1 1
   18.      6  1 2SP4  1   1SP1  1   2SP2  1   4SP3  26  1
   19.     -6  1 2
   20.      6  1 3SP1  1    SP3  14  5SP2  14  1SP2  11  3SP5  19  1
   21.     -6  1 3
   22.      6  1 4SP5  26  1SP1  1   3SP2  1   3SP2  18  3SP2  16  2
   23.      6  1 4SP3  14  4SP4  14  2SP4  16  1SP2  22  3
   24.     -6  1 4
   25.      6  1 5SP2  1   4SP1  1   2SP2  14  3SP4  16  2SP3  18  6
   26.      6  1 5SP4  12  1SP3  12  1
   27.     -6  1 5
   28.      6  1 6SP2  14  1SP2  12  1SP2  1   2SP3  12  1SP3  14  1
   29.      6  1 6SP4  16  1SP4  18  2
   30.     -6  1 6
   31.      6  1 7SP2  14  1SP3  16  4SP2  1   2SP2  16  1SP2  12  1
   32.      6  1 7SP3  12  1SP4  18  1SP4  1   1SP5  21  1SP5  18  1
   33.     -6  1 7
   34.      6  1 8SP2  14  1SP1  14  1SP1  1   1SP2  12  1SP2  1   1
   35.      6  1 8SP3  16  1SP3  17  1SP4  21  1SP4  19  1
   36.     -6  1 8
   37.      6  1 9SP2  2   1SP2  18  1SP4  16  1
   38.     -6  1 9
   39.      6  1 0SP5  26  1SP4  14  1SP4  1   1SP2  14  3
   40.     -6  1 0
   41.      8
   42.     18
   43.     1
END DATA. ERRORS: NONE. TIME:  1.234 SEC. IMAGE COUNT: 43

@FIN
```

"VARIABLE" 20 BAF

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS T
HOST SPECIES IS DOUGLAS FIR — THE REST IS SPRUCE AND ASPEN

THE METHOD OF SAMPLING WAS VARIABLE — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF [illegible] PLOTS, AND REPRESENT AN AREA OF 17460. ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES PER ACRE

DBH	DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
4.0- 4.9	15.701	.000	.000	5.777	.000	.000	21.478	100.00	21.478	12.788
5.0- 5.9	4.841	.000	.000	4.551	.000	.000	8.392	100.00	8.392	4.789
6.0- 6.9	12.251	.000	.000	6.269	.000	.000	18.520	100.00	18.520	11.019
7.0- 7.9	21.327	.000	.000	2.232	.000	.000	23.559	100.00	23.559	14.025
8.0- 8.9	13.323	.000	.000	12.383	.000	.000	25.706	100.00	25.706	15.301
9.0- 9.9	11.036	.000	.000	4.211	.000	.000	15.247	100.00	15.247	9.073
10.0- 10.9	13.827	.000	.000	4.379	.000	.000	18.207	100.00	18.207	10.833
11.0- 11.9	8.535	.000	.000	4.679	.000	.000	13.214	100.00	13.214	7.865
12.0- 12.9	5.681	.000	.000	2.336	.000	.000	8.017	100.00	8.017	4.771
13.0- 13.9	3.391	.000	.000	1.323	.000	.000	4.714	100.00	4.714	2.805
14.0- 14.9	2.937	.000	.000	1.772	.000	.000	4.709	100.00	4.709	2.802
15.0- 15.9	.000	.000	.000	2.078	.000	.000	2.078	100.00	2.078	1.237
16.0- 16.9	.460	.000	.000	.472	.000	.000	.932	100.00	.932	.554
17.0- 17.9	.399	.000	.000	.000	.000	.000	.399	100.00	.399	.237
18.0- 18.9	.342	.000	.000	.377	.000	.000	.719	100.00	.719	.428
19.0- 19.9	.633	.000	.000	.000	.000	.000	.633	100.00	.633	.376
20.0- 20.9	.000	.000	.000	.865	.000	.000	.865	100.00	.865	.514
21.0- 21.9	.534	.000	.000	.000	.000	.000	.534	100.00	.534	.317
28.0- 28.9	.000	.000	.000	.305	.000	.000	.305	100.00	.305	.181
TOTAL	114.42	.00	.00	53.98	.00	.00	168.39	100.00	168.39	100.00
PERCENT	68.02	.00	.00	31.98	.00	.00	100.00			

AVERAGE DIAMETER FOR HOST TREES

DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL	TOTAL
10.7772	.0000	.0000	12.5023	.0000	.0000	11.6764

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS T
HOST SPECIES IS DOUGLAS FIR THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS VARIABLE THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 3? PLOTS, AND
REPRESENT AN AREA OF 37450.ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	OF LIVE	OF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
4.0- 4.9	2.000	.000	.000	.667	.000	.000	2.667	100.000	2.667	3.279
5.0- 5.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.639
6.0- 6.9	2.667	.000	.000	1.333	.000	.000	4.000	100.000	4.000	4.918
7.0- 7.9	6.667	.000	.000	.667	.000	.000	7.333	100.000	7.333	9.016
8.0- 8.9	5.333	.000	.000	4.667	.000	.000	10.000	100.000	10.000	12.295
9.0- 9.9	5.333	.000	.000	2.000	.000	.000	7.333	100.000	7.333	9.016
10.0- 10.9	8.000	.000	.000	2.667	.000	.000	10.667	100.000	10.667	13.115
11.0- 11.9	6.000	.000	.000	3.333	.000	.000	9.333	100.000	9.333	11.475
12.0- 12.9	4.667	.000	.000	2.000	.000	.000	6.667	100.000	6.667	8.197
13.0- 13.9	3.333	.000	.000	1.333	.000	.000	4.667	100.000	4.667	5.738
14.0- 14.9	3.333	.000	.000	2.000	.000	.000	5.333	100.000	5.333	6.557
15.0- 15.9	.000	.000	.000	2.667	.000	.000	2.667	100.000	2.667	3.279
16.0- 16.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.639
17.0- 17.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.820
18.0- 18.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.639
19.0- 19.9	1.333	.000	.000	.000	.000	.000	1.333	100.000	1.333	1.639
20.0- 20.9	.000	.000	.000	2.000	.000	.000	2.000	100.000	2.000	2.459
21.0- 21.9	1.333	.000	.000	.000	.000	.000	1.333	100.000	1.333	1.639
28.0- 28.9	.000	.000	.000	1.333	.000	.000	1.333	100.000	1.333	1.639
TOTAL	52.67	.00	.00	28.67	.00	.00	81.33	100.00	81.33	100.00
PERCENT	64.75	.00	.00	35.25	.00	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ LOSS ASS T

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	UPPER LIMIT
DF LIVE	114.41813	.10107633+003	.18453929+002	88.33943	.35938593+007	.49762586+007
DF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TF LIVE	53.80188	.91139647+002	.16639747+002	169.39863	.13917219+007	.26390389+007
TF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	168.22001	.15429884+003	.28170986+002	91.72443	.52448358+007	.73548425+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ LOSS ASS T

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	UPPER LIMIT
DF LIVE	52.66666	.32156229+002	.58708973+001	61.05614	.17525014+007	.21922316+007
DF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TF LIVE	28.66666	.34713936+002	.63378685+001	121.09513	.83621341+006	.13109197+007
TF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	81.33332	.50359626+002	.91943678+001	61.91758	.27016038+007	.33926270+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS T
HOST SPECIES IS DOUGLAS FIR — THE REST IS SPRUCE [illegible]

THE METHOD OF SAMPLING WAS VARIABLE. THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 3 PLOTS. AND REPRESENT AN AREA OF 37450.ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES NON-HOST TREES

NUMBERS OF TREES PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
5.0- 5.9	.000	3.898	.000	.000	.000	3.898	13.929
6.0- 6.9	3.395	.000	.000	.000	.000	3.395	12.246
7.0- 7.9	.000	4.716	.000	.000	.000	4.716	16.731
9.0- 9.9	1.354	1.509	.000	.000	.000	2.863	10.159
10.0- 10.9	3.461	1.198	.000	.000	.000	4.659	16.531
11.0- 11.9	.000	.878	.000	.000	.000	.878	3.115
12.0- 12.9	.000	.782	.000	.000	.000	.782	2.775
13.0- 13.9	1.372	1.313	.000	.000	.000	2.686	9.528
14.0- 14.9	.000	1.720	.000	.000	.000	1.720	6.104
15.0- 15.9	.000	.496	.000	.000	.000	.496	1.759
16.0- 16.9	.000	.433	.000	.000	.000	.433	1.537
20.0- 20.9	.000	.591	.000	.000	.000	.591	2.096
21.0- 21.9	.000	.529	.000	.000	.000	.529	1.877
22.0- 22.9	.000	.253	.000	.000	.000	.253	.896
27.0- 27.9	.166	.000	.000	.000	.000	.166	.590
31.0- 31.9	.000	.120	.000	.000	.000	.120	.426
TOTAL	9.75	18.44	.00	.00	.00	28.19	100.00
PERCENT	34.59	65.41	.00	.00	.00	100.00	

AVERAGE DIAMETER FOR NON-HOST TREES

G SPRUCE	PON PINE			OTHER	TOTAL
12.5250	15.2300	.0000	.0000	.0000	14.4571

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS T
HOST SPECIES IS DOUGLAS FIR — THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS VARIABLE — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 30 PLOTS. AND

REPRESENT AN AREA OF 37450.ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES NON-HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
5.0- 5.9	.000	.667	.000	.000	.000	.667	3.571
6.0- 6.9	.667	.000	.000	.000	.000	.667	3.571
7.0- 7.9	.000	1.333	.000	.000	.000	1.333	7.143
9.0- 9.9	.667	.667	.000	.000	.000	1.333	7.143
10.0- 10.9	2.000	.667	.000	.000	.000	2.667	14.286
11.0- 11.9	.000	.667	.000	.000	.000	.667	3.571
12.0- 12.9	.000	.667	.000	.000	.000	.667	3.571
13.0- 13.9	1.333	1.333	.000	.000	.000	2.667	14.286
14.0- 14.9	.000	2.000	.000	.000	.000	2.000	10.714
15.0- 15.9	.000	.667	.000	.000	.000	.667	3.571
16.0- 16.9	.000	.667	.000	.000	.000	.667	3.571
20.0- 20.9	.000	1.333	.000	.000	.000	1.333	7.143
21.0- 21.9	.000	1.333	.000	.000	.000	1.333	7.143
22.0- 22.9	.000	.667	.000	.000	.000	.667	3.571
27.0- 27.9	.667	.000	.000	.000	.000	.667	3.571
31.0- 31.9	.000	.667	.000	.000	.000	.667	3.571
TOTAL	5.33	13.33	.00	.00	.00	18.67	.00
PERCENT	28.57	71.43	.00	.00	.00	100.00	

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ LOSS ASS T

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
G SPRUCE	9.74037	.2690[illegible]+002	.4[illegible]5375+001	274.92041	.18185094+006	.54837688+006
PON PINE	14.43617	.42477477+002	.77552[illegible]8+001	230.40293	.39[illegible]+006	.[illegible]+007
	.00000	.[illegible]	.[illegible]	.00000	.[illegible]	.[illegible]
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.[illegible]	.[illegible]	.00000	.[illegible]	.[illegible]
TOTAL	24.18554	.46377357+002	.84673082+001	164.54308	.73844782+006	.13726492+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ LOSS ASS T

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	UPPER LIMIT
G SPRUCE	5.33333	.12793676+002	.23357950+001	239.88143	.11225781+006	.28720885+006
PON PINE	13.33333	.25908769+002	.47302725+001	194.31577	.32218461+006	.67648202+006
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	18.66667	.26226248+002	.47882358+001	140.49776	.51974721+006	.87838605+006

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICS FOR TOTAL STAND

JEMEZ LOSS ASS T

AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	UPPER LIMIT
196.40554	.16495464+003	.30116459+002	83.98676	.62275260+007	.84832487+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS U
HOST SPECIES IS DOUGLAS FIR — THE REST IS SPRUCE, JUNIPER

THE METHOD OF SAMPLING WAS VARIABLE — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 3 PLOTS, AND REPRESENT AN AREA OF 37398.ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	OF LIVE	OF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
5.0- 5.9	1.333	.000	.000	.000	.000	.667	2.000	100.000	2.000	2.381
6.0- 6.9	2.667	.000	1.333	.667	.000	.667	5.333	100.000	5.333	5.349
7.0- 7.9	5.333	.000	.000	3.333	.000	.667	9.333	100.000	9.333	11.111
8.0- 8.9	8.667	.000	.667	.667	.000	2.000	12.000	100.000	12.000	14.286
9.0- 9.9	6.667	.000	.667	.667	.000	1.333	9.333	100.000	9.333	11.111
10.0- 10.9	7.333	.000	.000	2.000	.667	.667	10.667	100.000	10.667	12.698
11.0- 11.9	4.000	.000	.000	1.333	.000	.000	5.333	100.000	5.333	6.349
12.0- 12.9	.667	.000	.000	2.667	.000	.667	4.000	100.000	4.000	4.762
13.0- 13.9	2.000	.000	.000	1.333	.000	.000	3.333	100.000	3.333	3.968
14.0- 14.9	2.667	.000	.000	.667	.000	.000	3.333	100.000	3.333	3.968
15.0- 15.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.587
16.0- 16.9	1.333	.000	.000	.667	.000	.667	2.667	100.000	2.667	3.175
17.0- 17.9	2.667	.000	.000	.667	.000	.000	3.333	100.000	3.333	3.968
19.0- 19.9	.000	.000	.000	.667	.000	.000	.667	100.000	.667	.794
20.0- 20.9	.000	.000	.667	.667	.000	.000	1.333	100.000	1.333	1.587
21.0- 21.9	1.333	.000	.000	.667	.000	.000	2.000	100.000	2.000	2.381
22.0- 22.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.587
25.0- 25.9	.667	.000	.000	.667	.000	.000	1.333	100.000	1.333	1.587
26.0- 26.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.794
30.0- 30.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.794
31.0- 31.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.794
32.0- 32.9	.000	.000	.000	.667	.000	.000	.667	100.000	.667	.794
38.0- 38.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.794
40.0- 40.9	.000	.000	.000	.667	.000	.000	.667	100.000	.667	.794
42.0- 42.9	.667	.000	.000	.000	.000	.000	.667	100.000	.667	.794
44.0- 44.9	.000	.000	.000	.667	.000	.000	.667	100.000	.667	.794
TOTAL	52.00	.00	3.33	20.67	.67	7.33	84.00	100.00	84.	1.
PERCENT	61.90	.00	3.97	24.60	.79	8.73	100.00			

POPULATION STAND TABLE
JEFFREY PINE ASSOC
MOST SPECIES IS DOUGLAS FIR

THE METHOD OF DAMPLIN WAS VARIABLE

BAF WAS 20.

THIS TABLE ONLY INCLUDES TREES

NUMBERS OF TREES

PER ACRE

DBH	DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
5.0- 5.9	8.401	.000	.000	.000	.000	4.192	12.592	100.000	12.592	7.771
6.0- 6.9	10.827	.000	5.547	0.883	.000	2.807	20.065	100.000	20.065	12.737
7.0- 7.9	18.106	.000	.000	11.449	.000	2.669	31.223	100.000	31.223	19.454
8.0- 8.9	22.708	.000	1.910	1.818	.000	4.739	31.175	100.000	31.175	19.238
9.0- 9.9	13.735	.000	1.413	1.354	.000	2.985	19.487	100.000	19.487	12.026
10.0- 10.9	12.486	.000	.000	3.185	1.175	1.222	18.068	100.000	18.068	11.150
11.0- 11.9	5.454	.000	.000	2.003	.000	.000	7.457	100.000	7.457	4.602
12.0- 12.9	.770	.000	.000	3.274	.000	.835	4.879	100.000	4.879	3.011
13.0- 13.9	2.034	.000	.000	1.362	.000	.000	3.396	100.000	3.396	2.096
14.0- 14.9	2.342	.000	.000	.581	.000	.000	2.923	100.000	2.923	1.804
15.0- 15.9	.543	.000	.000	.515	.000	.000	1.059	100.000	1.059	.653
16.0- 16.9	.894	.000	.000	.465	.000	.428	1.787	100.000	1.787	1.103
17.0- 17.9	1.621	.000	.000	.423	.000	.000	2.044	100.000	2.044	1.262
19.0- 19.9	.000	.000	.000	.309	.000	.000	.309	100.000	.309	.190
20.0- 20.9	.000	.000	.291	.288	.000	.000	.579	100.000	.579	.357
21.0- 21.9	.532	.000	.000	.272	.000	.000	.804	100.000	.804	.496
22.0- 22.9	.248	.000	.000	.241	.000	.000	.489	100.000	.489	.302
25.0- 25.9	.187	.000	.000	.182	.000	.000	.369	100.000	.369	.228
26.0- 26.9	.179	.000	.000	.000	.000	.001	.179	100.000	.179	.111
30.0- 30.9	.134	.000	.000	.000	.000	.000	.134	100.000	.134	.083
31.0- 31.9	.125	.000	.000	.000	.000	.000	.125	100.000	.125	.077
32.0- 32.9	.000	.000	.000	.116	.000	.000	.116	100.000	.116	.071
38.0- 38.9	.084	.000	.000	.000	.000	.000	.084	100.000	.084	.052
40.0- 40.9	.000	.000	.000	.075	.000	.000	.075	100.000	.075	.046
42.0- 42.9	.066	.000	.000	.000	.000	.000	.066	100.000	.066	.041
44.0- 44.9	.000	.000	.000	.060	.000	.000	.060	100.000	.060	.038
TOTAL	101.48	.00	9.06	30.83	1.17	14.30	162.4	100.0	162.84	100.00
PERCENT	62.62	.00	5.72	19.00	.73	11.91	100.0			

AVERAGE DIAMETER FOR MOST TREES

DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL	TOTAL
12.4590	.0000	10.2000	15.5290	1.0000	9.5918	13.1080

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS U
HOST SPECIES IS DOUGLAS FIR — THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS VARTABLE THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 3 PLOTS, AND REPRESENT AN AREA OF 37798.ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES NON-HOST TREES

NUMBERS OF TREES PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
5.0- 5.9	.000	4.192	.000	.000	.000	4.192	13.233
6.0- 6.9	.000	8.992	.000	.000	.000	8.992	28.323
7.0- 7.9	.000	4.132	.000	.000	.000	4.132	13.013
8.0- 8.9	1.910	1.818	.000	.000	.000	3.728	11.741
10.0- 10.9	.000	1.222	.000	.000	.000	1.222	3.850
12.0- 12.9	.000	1.553	.000	.000	.000	1.553	4.891
13.0- 13.9	.000	.671	.000	.000	.000	.671	2.112
14.0- 14.9	.000	1.180	.000	.000	.000	1.180	3.718
15.0- 15.9	.000	1.011	.000	.000	.000	1.011	3.185
16.0- 16.9	.000	1.376	.000	.000	.000	1.376	4.335
17.0- 17.9	.000	.399	.000	.000	.000	.399	1.257
18.0- 18.9	.000	.734	.000	.000	.000	.734	2.312
19.0- 19.9	.000	1.307	.000	.000	.000	1.307	4.116
21.0- 21.9	.000	.272	.000	.000	.000	.272	.857
22.0- 22.9	.000	.233	.000	.000	.000	.233	.734
23.0- 23.9	.000	.450	.000	.000	.000	.450	1.418
25.0- 25.9	.000	.196	.000	.000	.000	.196	.616
34.0- 34.9	.000	.101	.000	.000	.000	.101	.318
TOTAL	1.91	29.84	.00	.00	.00	31.75	100.00
PERCENT	6.02	93.98	.00	.00	.00	100.00	

AVERAGE DIAMETER FOR NON-HOST TREES

G SPRUCE	PON PINE			OTHER	TOTAL
8.0000	15.7290	.0000	.0000	.0000	15.4875

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ LOSS ASS U
HOST SPECIES IS DOUGLAS FIR — THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS VARIABLE — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 38 PLOTS, AND

REPRESENT AN AREA OF 37399. ACRES.

BAF WAS 20.

THIS TABLE ONLY INCLUDES NON-HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
5.0- 5.9	.000	.667	.000	.000	.000	.667	3.125
6.0- 6.9	.000	2.000	.000	.000	.000	2.000	9.375
7.0- 7.9	.000	1.333	.000	.000	.000	1.333	6.250
8.0- 8.9	.667	.667	.000	.000	.000	1.333	6.250
10.0- 10.9	.000	.667	.000	.000	.000	.667	3.125
12.0- 12.9	.000	1.333	.000	.000	.000	1.333	6.250
13.0- 13.9	.000	.667	.000	.000	.000	.667	3.125
14.0- 14.9	.000	1.333	.000	.000	.000	1.333	6.250
15.0- 15.9	.000	1.333	.000	.000	.000	1.333	6.250
16.0- 16.9	.000	2.000	.000	.000	.000	2.000	9.375
17.0- 17.9	.000	.667	.000	.000	.000	.667	3.125
18.0- 18.9	.000	1.333	.000	.000	.000	1.333	6.250
19.0- 19.9	.000	2.667	.000	.000	.000	2.667	12.500
21.0- 21.9	.000	.667	.000	.000	.000	.667	3.125
22.0- 22.9	.000	.667	.000	.000	.000	.667	3.125
23.0- 23.9	.000	1.333	.000	.000	.000	1.333	6.250
25.0- 25.9	.000	.667	.000	.000	.000	.667	3.125
34.0- 34.9	.000	.667	.000	.000	.000	.667	3.125
TOTAL	.67	20.67	.00	.00	.00	21.33	.00
PERCENT	3.13	96.88	.00	.00	.00	100.00	

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ LOSS ASS U

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
G SPRUCE	1.90986	.10460739+002	.10998619+001	547.72285	.55727363-003	.14284996+006
PON PINE	29.83860	.40216109+002	.89855911+001	134.94119	.77986074+006	.14519478+007
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	31.74846	.49129901+002	.89698516+001	154.74736	.85187434+006	.15027833+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ LOSS ASS U

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	UPPER LIMIT
G SPRUCE	.66667	.36514837+001	.66666666+000	547.72265	.27863681-003	.48713939+006
PON PINE	20.66667	.26513930+002	.48407552+001	128.29321	.59185726+006	.95332668+006
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	21.33333	.26226247+002	.47882387+001	122.93554	.51875351+006	.97689438+006

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICS FOR TOTAL STAND

JEMEZ LOSS ASS U

AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	UPPER LIMIT
193.78990	.97326382+002	.17769285+002	50.22263	.65828189+007	.79118902+007

"FIXED" 10 BAF

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ REGENERATION T
HOST SPECIES IS DOUGLAS FIR THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS FIXED THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 15 PLOTS. AND
REPRESENT AN AREA OF 37450.ACRES.

PLOT SIZE = .010 ACRES.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

PER ACRE

DBH	DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
.1- .4	36.000	.000	2.000	61.333	.667	1.333	.000	.000	101.333	37.073
.5- 1.0	16.000	.000	.000	18.000	.000	.000	.000	.000	34.000	12.439
1.1- 1.5	8.000	.000	.000	15.333	.000	.000	.000	.000	23.333	8.537
1.6- 2.0	8.000	.667	.667	9.333	.000	.000	.000	.000	18.667	6.829
2.1- 2.5	4.667	.000	.667	15.333	.000	.000	.000	.000	20.667	7.561
2.6- 3.0	3.333	.667	.000	16.000	.000	.000	.000	.000	20.000	7.317
3.1- 3.5	6.667	.000	.000	8.000	2.000	.000	.000	.000	16.667	6.098
3.6- 4.0	6.000	.000	.000	9.333	.000	.000	.000	.000	15.333	5.610
4.1- 4.5	3.333	.000	.000	9.333	.000	.667	.000	.000	13.333	4.878
4.6- 5.0	4.000	.000	.000	4.667	.000	.000	.000	.000	8.667	3.171
TOTAL	97.33	1.33	3.33	166.67	2.67	2.00	.00	.00	273.33	100.00
PERCENT	35.61	.49	1.22	60.98	.98	.73	.00			

AVERAGE DIAMETER FOR HOST TREES

DF LIVE	DF DEAD	TOP KILL	TF LIVE	TF DEAD	TOP KILL	TOTAL
1.5959	2.2000	1.0200	1.6840	2.5000	1.7333	********

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ REGENERATION T
HOST SPECIES IS DOUGLAS FIR THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS FIXED THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 150 PLOTS, AND REPRESENT AN AREA OF 37450.ACRES.

PLOT SIZE = .010 ACRES.

THIS TABLE ONLY INCLUDES HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	DF LIVE	DF DEAD	TOP KILL	IF LIVE	IF DEAD	TOP KILL		PERCENT	TOTAL	PERCENTILE
.1- .4	.017	.000	.002	.019	.001	.001	.039	1[illegible].000	.039	.583
.5- 1.0	.048	.000	.000	.051	.000	.000	.099	1[illegible].000	.099	1.480
1.1- 1.5	.059	.000	.000	.100	.000	.000	.159	1[illegible].000	.159	2.369
1.6- 2.0	.124	.012	.011	.147	.000	.000	.294	1[illegible].000	.294	4.380
2.1- 2.5	.127	.000	.018	.394	.000	.000	.538	1[illegible].000	.538	8.032
2.6- 3.0	.149	.025	.000	.639	.000	.000	.813	1[illegible].000	.813	12.122
3.1- 3.5	.406	.000	.000	.462	.077	.000	.945	1[illegible].000	.945	14.097
3.6- 4.0	.473	.000	.000	.706	.000	.000	1.179	1[illegible].000	1.179	17.590
4.1- 4.5	.327	.000	.000	.945	.000	.070	1.343	1[illegible].000	1.343	20.034
4.6- 5.0	.493	.000	.000	.594	.000	.000	1.086	1[illegible].000	1.086	16.205
TOTAL	2.43	.04	.03	4.06	.08	.07	6.70	100.00	6.70	100.00
PERCENT	36.26	.54	.45	60.53	1.16	1.07	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ REGENERATION T

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
DF LIVE	97.33331	.17983833+003	.14683738+002	184.76544	.39962267+007	.41[illegible]3696+007
DF DEAD	1.33333	.11508192+002	.93963992+000	863.11439	.14743813+005	.85102848+005
TOP KILL	3.33333	.21415251+002	.17485479+001	642.45753	.59350213+005	.13[illegible]1645+006
TF LIVE	166.66663	.38103822+003	.31111640+002	228.62297	.50765345+007	.74[illegible]7962+007
TF DEAD	2.66667	.19887828+002	.16238344+001	745.73356	.32054069+005	.16[illegible]7926+006
TOP KILL	2.00000	.14746901+002	.11469247+001	702.34505	.3194767 +005	.11785233+006
TOTAL	.00000	.00000000	.00000000	.0000	.00000000	.00000000

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ REGENERATION I

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	UPPER LIMIT
DF LIVE	2.43044	.54165375+001	.44225843+000	222.86212	.74457521+006	.17738268+006
DF DEAD	.03636	.33296022+000	.27186088-001	915.70634	.34356140+003	.23749394+004
TOP KILL	.02985	.34431471+000	.28113178-001	1153.39030	.6513391 +002	.217 8109+004
TF LIVE	4.05749	.84631606+001	.69101417+000	208.58118	.12607452+006	.17783148+006
TF DEAD	.07756	.66721442+000	.54477829-001	860.27724	.86435995+003	.4944744 +004
TOP KILL	.07156	.86212132+000	.70391911-001	1204.77840	.43688639+002	.5316 427+004
TOTAL	6.70326	.10765579+002	.87900586+000	160.60208	.21811842+006	.28395595+006

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ REGENERATION T
HOST SPECIES IS DOUGLAS FIR THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS FIXED THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 15 PLOTS, AND REPRESENT AN AREA OF 37450. ACRES.

PLOT SIZE = .010 ACRES.

THIS TABLE ONLY INCLUDES NON-HOST TREES

NUMBERS OF TREES

PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
.1- .4	3.333	6.000	.000	.000	.000	9.333	34.146
.5- 1.0	.000	2.000	.000	.000	.000	2.000	7.317
1.1- 1.5	.667	2.667	.000	.000	.000	3.333	12.195
1.6- 2.0	2.000	.000	.000	.000	.000	2.000	7.317
2.1- 2.5	2.000	.000	.000	.000	.000	2.000	7.317
2.6- 3.0	.000	.667	.000	.000	.000	.667	2.439
3.1- 3.5	.000	2.667	.000	.000	.000	2.667	9.756
3.6- 4.0	.667	1.333	.000	.000	.000	2.000	7.317
4.1- 4.5	2.000	.667	.000	.000	.000	2.667	9.756
4.6- 5.0	.000	.667	.000	.000	.000	.667	2.439
TOTAL	10.67	16.67	.00	.00	.00	27.33	.00
PERCENT	39.02	60.98	.00	.00	.00	100.00	

AVERAGE DIAMETER FOR NON-HOST TREES

G SPRUCE	PON PINE			OTHER	TOTAL
2.0375	1.7600	.0000	.0000	.0000	1.8683

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
JEMEZ REGENERATION T
HOST SPECIES IS DOUGLAS FIR THE PEST IS SPRUCE BUDWORM

THE METHOD OF SAMPLING WAS FIXED THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 15 PLOTS, AND REPRESENT AN AREA OF 37450.ACRES.

PLOT SIZE = .010 ACRES.

THIS TABLE ONLY INCLUDES NON-HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	G SPRUCE	PON PINE			OTHER	TOTAL	PERCENTILE
.1- .4	.002	.003	.000	.000	.000	.005	.658
.5- 1.0	.000	.006	.000	.000	.000	.006	.828
1.1- 1.5	.008	.027	.000	.000	.000	.035	4.953
1.6- 2.0	.034	.000	.000	.000	.000	.034	4.840
2.1- 2.5	.058	.000	.000	.000	.000	.058	8.172
2.6- 3.0	.000	.027	.000	.000	.000	.027	3.749
3.1- 3.5	.000	.163	.000	.000	.000	.163	23.113
3.6- 4.0	.050	.108	.000	.000	.000	.158	22.310
4.1- 4.5	.070	.064	.000	.000	.000	.135	19.029
4.6- 5.0	.000	.087	.000	.000	.000	.087	12.348
TOTAL	.22	.48	.00	.00	.00	.71	.00
PERCENT	31.41	68.59	.00	.00	.00	100.00	

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ REGENERATION T

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
G SPRUCE	16.66667	.52002407+002	.42459788+001	487.52258	.24045475+006	.55847855+006
PON PINE	16.66667	.63896585+002	.52171344+001	383.37952	.42879496+006	.81954831+006
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	27.33333	.80181555+002	.65467966+001	293.34717	.77845572+006	.12688108+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

JEMEZ REGENERATION T

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	UPPER LIMIT
G SPRUCE	.22209	.17657602+001	.14417371+000	795.05391	.29180823+004	.13716693+005
PON PINE	.48491	.24553897+001	.20048173+000	506.35925	.10651861+005	.25667943+005
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	.70700	.29883124+001	.24399468+000	422.67279	.17339688+005	.35614890+005

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICS FOR TOTAL STAND

JEMEZ REGENERATION T

AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	UPPER LIMIT
300.66650	.47210741+003	.38547409+002	157.02029	.98163599+007	.12703561+008

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ LOSS ASS U

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	ESTIMATED SQ.FT. BASAL AREA UPPER LIMIT
DF LIVE	51.99999	.29524976+002	.53004985+001	56.77881	.17431210+007	.21462896+007
DF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	3.33333	.75809304+001	.13840913+001	227.42341	.72897722+005	.17642224+006
TF LIVE	20.66667	.26513930+002	.48407591+001	128.29321	.59185724+006	.95302665+006
TF DEAD	.66667	.36514837+001	.66666666+000	547.72255	.27863681-003	.49863999+005
TOP KILL	7.33333	.14367908+002	.26232091+001	195.92682	.17614922+006	.37235477+006
TOTAL	83.99999	.39444427+002	.72015341+001	46.95766	.28721087+007	.34107545+007

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

JEMEZ LOSS ASS U

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	UPPER LIMIT
DF LIVE	101.47527	.64156456+002	.11713313+002	63.22373	.33569177+007	.42330266+007
DF DEAD	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOP KILL	9.26094	.24248302+002	.44271141+001	261.83416	.18077340+006	.51190582+006
TF LIVE	30.82743	.53146360+002	.97031535+001	172.39958	.79000571+006	.15157628+007
TF DEAD	1.17485	.64349028+001	.11748471+001	547.72254	.55727363-003	.87873866+005
TOP KILL	19.30296	.42503921+002	.77601187+001	220.19381	.43167914+006	.10121050+007
TOTAL	162.04144	.92357788+002	.16862148+002	56.99640	.54294154+007	.66976355+007

"STRIP" .500 CHAINS WIDE

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 101 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	2.	0.	0.	0.	0.	0.	2.	100.00	2.	11.76
12.0- 12.9	0.	5.	0.	0.	0.	0.	5.	100.00	5.	29.41
14.0- 14.9	5.	0.	0.	0.	0.	0.	5.	100.00	5.	29.41
16.0- 16.9	0.	0.	0.	0.	1.	0.	1.	100.00	1.	5.88
21.0- 21.9	0.	0.	4.	0.	0.	0.	4.	100.00	4.	23.53
TOTAL	7.	5.	4.	0.	1.	0.	17.	100.00	17.	100.00
PERCENT	41.18	29.41	23.53	.00	5.88	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 102 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	2.	0.	0.	0.	0.	0.	2.	100.00	2.	20.00
12.0- 12.9	0.	0.	0.	3.	0.	0.	3.	100.00	3.	30.00
18.0- 18.9	0.	4.	0.	0.	0.	0.	4.	100.00	4.	40.00
26.0- 26.9	0.	0.	1.	0.	0.	0.	1.	100.00	1.	10.00
TOTAL	2.	4.	1.	3.	0.	0.	10.	100.00	10.	100.00
PERCENT	20.00	40.00	10.00	30.00	.00	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 193 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	2.	0.	0.	0.	0.	0.	2.	100.00	2.	16.67
11.0- 11.9	0.	3.	0.	0.	0.	0.	3.	100.00	3.	25.00
14.0- 14.9	0.	1.	5.	0.	0.	0.	6.	100.00	6.	50.00
19.0- 19.9	0.	0.	0.	0.	1.	0.	1.	100.00	1.	8.33
TOTAL	2.	4.	5.	0.	1.	0.	12.	100.00	12.	100.00
PERCENT	16.67	33.33	41.67	.00	8.33	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 104 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	3.	0.	0.	0.	0.	0.	3.	100.00	3.	12.50
12.0- 12.9	0.	3.	0.	0.	0.	0.	3.	100.00	3.	12.50
14.0- 14.9	0.	0.	4.	2.	0.	0.	6.	100.00	6.	25.00
16.0- 16.9	0.	2.	0.	1.	0.	0.	3.	100.00	3.	12.50
18.0- 18.9	0.	5.	0.	0.	0.	0.	5.	100.00	5.	20.83
22.0- 22.9	0.	3.	0.	0.	0.	0.	3.	100.00	3.	12.50
26.0- 26.9	0.	0.	0.	0.	1.	0.	1.	100.00	1.	4.17
TOTAL	3.	13.	4.	3.	1.	0.	24.	100.00	24.	100.00
PERCENT	12.50	54.17	16.67	12.50	4.17	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 105 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	2.	0.	0.	0.	0.	0.	2.	100.00	2.	9.52
12.0- 12.9	0.	6.	1.	1.	0.	0.	8.	100.00	8.	38.10
14.0- 14.9	0.	3.	0.	0.	0.	0.	3.	100.00	3.	14.29
16.0- 16.9	0.	0.	0.	2.	0.	0.	2.	100.00	2.	9.52
18.0- 18.9	0.	0.	6.	0.	0.	0.	6.	100.00	6.	28.57
TOTAL	2.	9.	7.	3.	0.	0.	21.	100.00	21.	100.00
PERCENT	9.52	42.86	33.33	14.29	.00	.00	100.00			

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FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 106 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
12.0- 12.9	0.	1.	1.	0.	0.	0.	2.	100.00	2.	22.22
14.0- 14.9	0.	1.	1.	0.	0.	0.	2.	100.00	2.	22.22
16.0- 16.9	0.	2.	0.	1.	0.	0.	3.	100.00	3.	33.33
18.0- 18.9	0.	0.	0.	2.	0.	0.	2.	100.00	2.	22.22
TOTAL	0.	4.	2.	3.	0.	0.	9.	100.00	9.	100.00
PERCENT	.00	44.44	22.22	33.33	.00	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 107 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
12.0- 12.9	0.	1.	1.	1.	0.	0.	3.	100.00	3.	21.43
14.0- 14.9	0.	1.	0.	0.	0.	0.	1.	100.00	1.	7.14
16.0- 16.9	0.	1.	4.	0.	0.	0.	5.	100.00	5.	35.71
18.0- 18.9	0.	2.	0.	1.	1.	0.	4.	100.00	4.	28.57
21.0- 21.9	0.	0.	0.	0.	1.	0.	1.	100.00	1.	7.14
TOTAL	0.	5.	5.	2.	2.	0.	14.	100.00	14.	100.00
PERCENT	.00	35.71	35.71	14.29	14.29	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 108 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
12.0- 12.9	0.	1.	0.	0.	0.	0.	1.	100.00	1.	11.11
14.0- 14.9	1.	1.	0.	0.	0.	0.	2.	100.00	2.	22.22
16.0- 16.9	0.	1.	1.	0.	0.	0.	2.	100.00	2.	22.22
17.0- 17.9	0.	0.	1.	0.	0.	0.	1.	100.00	1.	11.11
19.0- 19.9	1.	0.	0.	1.	0.	0.	2.	100.00	2.	22.22
21.0- 21.9	0.	0.	0.	1.	0.	0.	1.	100.00	1.	11.11
TOTAL	2.	3.	2.	2.	0.	0.	9.	100.00	9.	100.00
PERCENT	22.22	33.33	22.22	22.22	.00	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 109 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
16.0- 16.9	0.	0.	0.	1.	0.	0.	1.	100.00	1.	33.33
18.0- 18.9	0.	1.	0.	0.	0.	0.	1.	100.00	1.	33.33
26.0- 26.9	0.	1.	0.	0.	0.	0.	1.	100.00	1.	33.33
TOTAL	0.	2.	0.	1.	0.	0.	3.	100.00	3.	100.00
PERCENT	.00	66.67	.00	33.33	.00	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

UN-WEIGHTED SUMMARY FOR PLOT NUMBER 110 STRIP TEST RUN

HOST SPECIES IS ENG. SPRUCE THE PEST IS SPRUCE BEETLE

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
14.0- 14.9	0.	3.	0.	1.	0.	0.	4.	100.00	4.	66.67
16.0- 16.9	0.	0.	0.	1.	0.	0.	1.	100.00	1.	16.67
26.0- 26.9	0.	0.	0.	0.	1.	0.	1.	100.00	1.	16.67
TOTAL	0.	3.	0.	2.	1.	0.	6.	100.00	6.	100.00
PERCENT	.00	50.00	.00	33.33	16.67	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
FT. APACHE SPRUCE BEETLE
HOST SPECIES IS ENG. SPRUCE — THE PEST IS SPRUCE BEETLE

THE METHOD OF SAMPLING WAS STRIP — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 10 PLOTS. AND REPRESENT AN AREA OF 210.ACRES.

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

NUMBERS OF TREES PER ACRE

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	44.000	.000	.000	.000	.000	.000	.000	.000	44.000	8.800
11.0- 11.9	.000	12.000	.000	.000	.000	.000	.000	.000	12.000	2.400
12.0- 12.9	.000	68.000	12.000	20.000	.000	.000	.000	.000	100.000	20.000
14.0- 14.9	24.000	40.000	40.000	12.000	.000	.000	.000	.000	116.000	23.200
16.0- 16.9	.000	24.000	20.000	24.000	4.000	.000	.000	.000	72.000	14.400
17.0- 17.9	.000	.000	4.000	.000	.000	.000	.000	.000	4.000	.800
18.0- 18.9	.000	48.000	24.000	12.000	4.000	.000	.000	.000	88.000	17.600
19.0- 19.9	4.000	.000	.000	4.000	4.000	.000	.000	.000	12.000	2.400
21.0- 21.9	.000	.000	16.000	4.000	4.000	.000	.000	.000	24.000	4.800
22.0- 22.9	.000	12.000	.000	.000	.000	.000	.000	.000	12.000	2.400
26.0- 26.9	.000	4.000	4.000	.000	8.000	.000	.000	.000	16.000	3.200
TOTAL	72.00	208.00	120.00	76.00	24.00	.00	.00	.00	500.00	100.00
PERCENT	14.40	41.60	24.00	15.20	4.80	.00	.00			

AVERAGE DIAMETER FOR HOST TREES

FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG		TOTAL
11.8333	15.0192	16.3667	15.3684	21.0000	.0000	********

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
FT. APACHE SPRUCE BEETLE
HOST SPECIES IS ENG. SPRUCE — THE PEST IS SPRUCE BEETLE

THE METHOD OF SAMPLING WAS STRIP — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 10 PLOTS. AND

REPRESENT AN AREA OF 210.ACRES.

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH	FILL-IN	NEW ATTK	OLD ATTK	PITCHOUT	SNAG			PERCENT	TOTAL	PERCENTILE
10.0- 10.9	10.908	.000	.000	.000	.000	.000	10.908	100.000	10.908	3.014
11.0- 11.9	.000	2.640	.000	.000	.000	.000	2.640	100.000	2.640	.729
12.0- 12.9	.000	21.991	9.425	9.425	.000	.000	40.841	100.000	40.841	11.285
14.0- 14.9	8.552	25.656	12.828	8.552	.000	.000	55.589	100.000	55.589	15.361
16.0- 16.9	.000	22.340	11.170	27.925	5.585	.000	67.021	100.000	67.021	18.519
17.0- 17.9	.000	.000	6.305	.000	.000	.000	6.305	100.000	6.305	1.742
18.0- 18.9	.000	28.274	7.069	14.137	7.069	.000	56.549	100.000	56.549	15.626
19.0- 19.9	7.876	.000	.000	7.876	7.876	.000	23.627	100.000	23.627	6.529
21.0- 21.9	.000	.000	9.621	9.621	9.621	.000	28.863	100.000	28.863	7.976
22.0- 22.9	.000	10.559	.000	.000	.000	.000	10.559	100.000	10.559	2.918
26.0- 26.9	.000	14.748	14.748	.000	29.496	.000	58.992	100.000	58.992	16.301
TOTAL	27.34	126.21	71.17	77.54	59.65	.00	361.89	100.00	361.89	100.00
PERCENT	7.55	34.87	19.66	21.43	16.48	.00	100.00			

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

FT. APACHE SPRUCE BEETLE

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
FILL-IN	72.00000	.85997416+002	.27194771+002	119.44085	.94090983+004	.20830902+005
NEW ATTK	208.00000	.13306640+003	.42079290+002	63.97423	.34843349+005	.52516650+005
OLD ATTK	121.00000	.94280904+002	.29814240+002	78.56742	.18939010+005	.31460990+005
PITCHOUT	76.00000	.47888760+002	.15143755+002	63.01153	.12779811+005	.19140188+005
SNAG	24.00000	.27968236+002	.88443327+001	116.53432	.31826901+004	.68973098+004
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	.00000	.00000000	.00000000	.00000	.00000000	.00000000

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR HOST TREES

FT. APACHE SPRUCE BEETLE

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	ESTIMATED SQ.FT. BASAL AREA UPPER LIMIT
FILL-IN	27.33622	.38540224+002	.12187489+002	140.98593	.31812333+004	.82999785+004
NEW ATTK	126.20912	.76682929+002	.24249271+002	60.75863	.21411567+005	.31596261+005
OLD ATTK	71.16580	.49100773+002	.15527028+002	68.99490	.11684142+005	.18205493+005
PITCHOUT	77.53625	.55878575+002	.17670357+002	72.06768	.12571837+005	.19993387+005
SNAG	59.64663	.70789542+002	.22385619+002	118.68155	.78248114+004	.17226771+005
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	361.89400	.13904684+003	.43970472+002	38.42198	.66763941+005	.85231538+005

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
FT. APACHE SPRUCE BEETLE
HOST SPECIES IS ENG. SPRUCE — THE PEST IS SPRUCE BEETLE

THE METHOD OF SAMPLING WAS STRIP — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 10 PLOTS, AND REPRESENT AN AREA OF 210.ACRES.

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES NON-HOST TREES

NUMBERS OF TREES PER ACRE

DBH					OTHER	TOTAL	PERCENTILE
TOTAL	.00	.00	.00	.00	.00	.00	.00
PERCENT	.00	.00	.00	.00	.00	.00	

AVERAGE DIAMETER FOR NON-HOST TREES

				OTHER	TOTAL
.0000	.0000	.0000	.0000	.0000	.0000

FOREST INSECT AND DISEASE

SURVEY SUMMARY

POPULATION STAND TABLE
FT. APACHE SPRUCE BEETLE
HOST SPECIES IS ENG. SPRUCE — THE PEST IS SPRUCE BEETLE

THE METHOD OF SAMPLING WAS STRIP — THE FIGURES IN THIS TABLE ARE BASED ON A SAMPLE OF 10 PLOTS. AND REPRESENT AN AREA OF 210.ACRES.

STRIPS WERE .500 CHAINS WIDE.

THIS TABLE ONLY INCLUDES NON-HOST TREES

SQ. FT. OF BASAL AREA

PER ACRE

DBH					OTHER	TOTAL	PERCENTILE
TOTAL	.00	.00	.00	.00	.00	.00	.00
PERCENT	.00	.00	.00	.00	.00	.00	

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

FT. APACHE SPRUCE BEETLE

	AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	.00000	.00000000	.00000000	.00000	.00000000	.00000000

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICAL ANALYSIS FOR NON-HOST TREES

FT. APACHE SPRUCE BEETLE

	AVE. SQ.FT. BASAL AREA PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED SQ.FT. BASAL AREA LOWER LIMIT	ESTIMATED SQ.FT. BASAL AREA UPPER LIMI
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
	.00000	.00000000	.00000000	.00000	.00000000	.00000000
OTHER	.00000	.00000000	.00000000	.00000	.00000000	.00000000
TOTAL	.00000	.00000000	.00000000	.00000	.00000000	.00000000

FOREST INSECT AND DISEASE

SURVEY SUMMARY

STATISTICS FOR TOTAL STAND

FT. APACHE SPRUCE BEETLE

AVE. NO. OF TREES PER ACRE	STANDARD DEVIATION	STANDARD ERROR	COEFFICIENT OF VARIATION	ESTIMATED NO. OF TREES LOWER LIMIT	ESTIMATED NO. OF TREES UPPER LIMIT
500.00000	.26348097+003	.83319999+002	52.69619	.87502801+005	.12249720+006